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**TEACHING PIANO PLAYING TO DEAF CHILDREN
AND CHILDREN WITH HEARING IMPAIRMENTS**

By

Nabila A. Kamel

**SUBMITTED TO THE FULBRIGHT COMMISSION
AND
THE WICHITA STATE UNIVERSITY
WICHITA, KANSAS, USA
November 1993**

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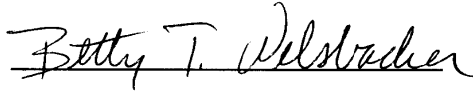
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CHAPTER I

INTRODUCTION

In 1802, Itard, a French otologist in Paris observed the responses of some deaf students to the auditory stimulation of bells or drum and a flute. (Fahey, and Birkenshaw, 1972, p. 45). In 1848, an article was written under the title of "Music Among the Deaf and Dumb." The writers advocated instruction for the hearing impaired illustrating their argument with the case study of a young deaf women who had learned to play the piano. (Darrow, 1985, p. 33). Still, in 1993, the very idea of music and the deaf continues to meet with surprise, if not suspicion.

Since then, many music experiences with the deaf have been reported. These reports seem to indicate that hearing impaired children can benefit from musical experiences, and are able to demonstrate musical growth when they learn music through a structured, sequential, conceptually oriented educational program. (Monger, 1978, p. 1).

Hearing impaired children can learn music. If they have disabilities, teachers need to learn the best ways to teach them over come these disabilities. The deaf child may not learn as quickly, or as easily as other children, but he can learn. Since music is a multisensory experience, and since all children retain 24% of what they hear, 40% of what they see, and 70% of what they learn through multisensory experiences, then music is a very important subject for them to learn. (Callett, 1991, p. 42).

Music time should not be play time, social time, or recreation time. It should not be speech therapy time or physical therapy time, it should be music time. Many non-musical benefits also can be gained as auxiliary values from a musical program, but the basic reason for learning music is for its own sake. Music helps deaf children to improve socially and in speech and language. Music experiences may enhance self-image, feelings of success and accomplishment. Music is an outlet for the expression of feelings. For a deaf child the experience of participating in a group is very important.

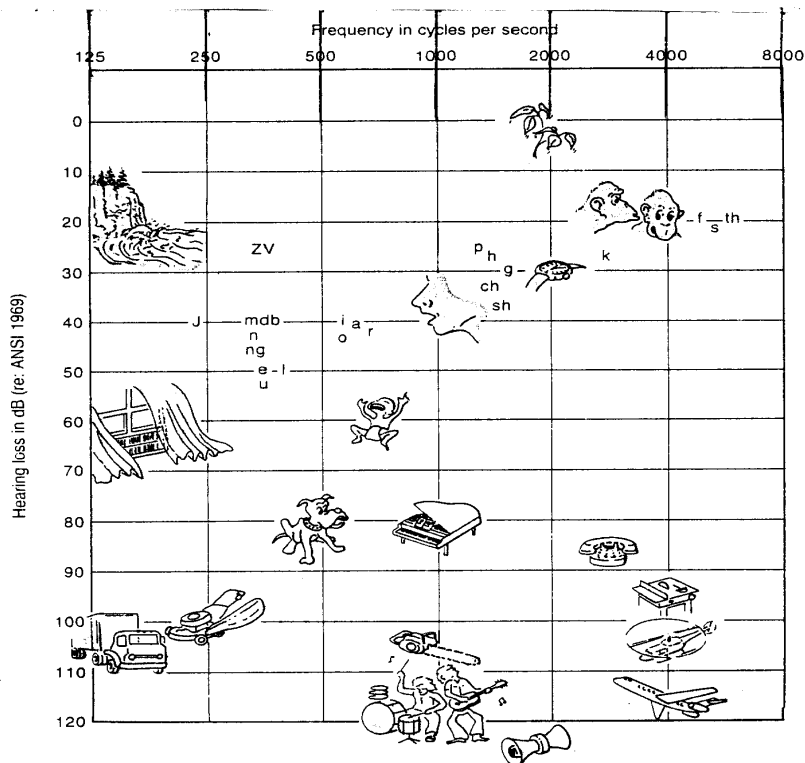
Playing an instrument helps a deaf child coordinate his/her body and control his/her motions. He becomes less tense and awkward. With accumulating successes, the child becomes more confident, daring to try new things with less hesitation and fear. He/she becomes more free, both within and in relation to peers and teachers, sharing their pleasure and happiness. (Edwards 1974, p. 100, 107, 108, and Alvin, 1965, p. 135).

Music helps hearing impaired children feel part of the hearing world, for it is an art form that is common to all humanity. Music instruction helps them understand and appreciate the music that permeates society, through T.V., radio, and movies. (Atkins and Donovan, 1984, p. 43).

The piano has always proved to be one of the most suitable instruments for hearing impaired children. Its tones include a wide range of frequencies (27.5 to 5000 Hz). The requested sounds can be produced easily by seeing and feeling the proper key. The piano is an instrument that can produce lovely melodic lines and

clear rhythms. Simple times or rich harmonies. It can be played as a solo or as part of an ensemble. It can accompany any instrumentalist or singer.

This research includes a curriculum for teaching hearing impaired children piano playing. As every child is different, teachers should never hesitate to change any point at any time, repeat or skip within the curriculum. The importance matter is not the method but the child.



Frequency spectrum of familiar sounds. (From Northern, J. L., and Downs, M. P. *Hearing in Children*. Baltimore: Williams and Wilkins, 1978, p. 12.)

CHAPTER 2
THEORETICAL ASPECTS
Definitions

Before defining deafness, we need to define normal hearing. Normal hearing is a sense of hearing in one whose ears show no indication of present or past otological disease or anatomical deviation that might interfere with acoustic transmission. (Lela Jo Monger, 1978, p. 91). Because deafness is such a highly individual matter, there is no legal definition for it. The age of the child at onset, the cause, type, and amount of hearing loss, all combine to define deafness and have implications for his education.

Deafness in simplest terms is a deficiency that prevents an individual from receiving the stimulus of sound in all or most of its forms. Although an individual may perceive some sounds quite well, he still may be considered deaf if even with a hearing aid he cannot hear and understand connected speech. (Kalz, Mathis and Merrill, Jr., 1978, p.3).

Hard of Hearing is a term used to describe one who, generally with the use of a hearing aid, has residual hearing sufficient to enable successful processing of linguistic information through audition.

Hearing Impairment a generic term indicating a hearing disability which may range from mild to profound. It includes the subsets of deaf and hard of hearing. (Kauffman, 1991, p. 266).

The Hearing Process

Sound waves are the stimuli for hearing. Some are simple and pure like a note on a piano, and others are complex like speech (Zigmond, 1968, p.3). The ear is a delicate mechanism designed to receive sound waves and to convert them to electrical impulses along the neurological pathway to the brain for processing and interpretation. Sound waves enter the outer ear, (the pinna, the ear canal, and the tympanic membrane or ear drum) and cause the three tiny bones of the middle ear to vibrate. The movement of these bones moves fluid in the inner ear. This motion activates the delicate nerve endings that send impulses to the brain. (Cartwright et. al., 1989, p. 119).

At the point the brain takes over to process the sounds, hearing moves toward listening. Thus, the discriminations made during music listening are made by the brain, not the ear. That is why we find many children with poor hearing able to make fine discriminations about the music they hear, however some normally hearing children may have difficulty with discrimination. This is because the hearing impaired children make good use of their residual hearing by cognitively "filling in" enormous gaps in what they hear. (Darrow, 1990, p. 26).

Causes of Deafness

Although the causes of deafness are classified in different ways (congenital and adventitious, exogenous and endogenous), still the most common classification is based on the location of the problem within the hearing mechanism. There are three

major classifications:

Conductive loss refers to impairment that interferes with the transfer of sound along the conductive pathway (all structures of the outer and middle ear).

Possible causes:

Wax in ears
Infection in ear canal
Ruptured or perforated ear drum
Foreign body in canal
Otitis media

Result:

Faulty or blocked passage of sound pressure waves to inner ear.

Sensorineural loss refers to impairment that happens in the inner ear. Some losses are hereditary.

Possible causes:

Meningitis	Multiple sclerosis
Infections	Measles
Drugs	Otosclerosis
Mumps	Acoustic trauma
Direct head injury	Vascular disorders
Occupational noise	Neuritis
Viral infections	Vestibular disorders
Systemic disease	Presbycusis

Result: Poor or blocked transmission through inner ear and/or auditory nerve damage. Great loss especially in the higher frequency.

Central Auditory Dysfunction refers to impairment at the level of the central nervous system.

Possible causes: mostly still a mystery, but may be result of damage or malfunction in central nervous system between lower brain stem and cerebral cortex.

Tumor

Abscess

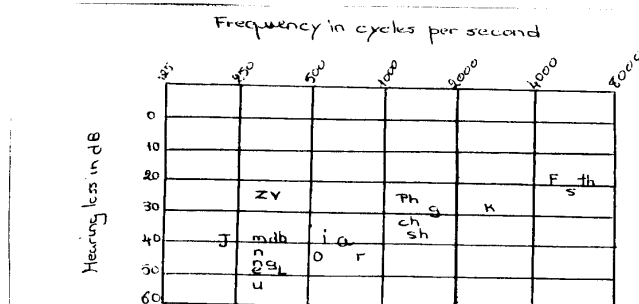
Result: faulty interpretation of what is heard even though sensitivity/acuity may be normal. (Kauffman, 1991, p. 271, 272, and Cartwright et. al., 1989, p. 127).

People cannot turn off their ears as they may close their eyes. Therefore, the hearing mechanism is never at rest, whether one is awake or asleep. This is especially important to note with the increasing of noise pollution in the world. Many rock musicians suffer hearing loss (temporary or permanent) due to exposure to amplification. Also, as individuals grow older, it is common for hearing acuity to decrease starting with the higher frequencies, especially those above 10,000-12,000 Hz, (slightly over an octave above the high C on the piano). (Sherbon, 1978, p. 38-39). Despite what is known about cause, still about 25 to 40 percent of hearing impairment in children that results from unknown causes. (Paul et. al., 1993, p. 24).

Measuring Hearing Loss

Hearing loss may be measured both formally and informally. Informally, a parent who suspects a problem in his child's hearing ability may informally examine it by talking, clapping, turning up the recorder player, radio, or T.V. Formally, through a test administered by a qualified audiologist using an audiometer (an instrument used to measure an individual's auditory acuity) that records the following on a graph:

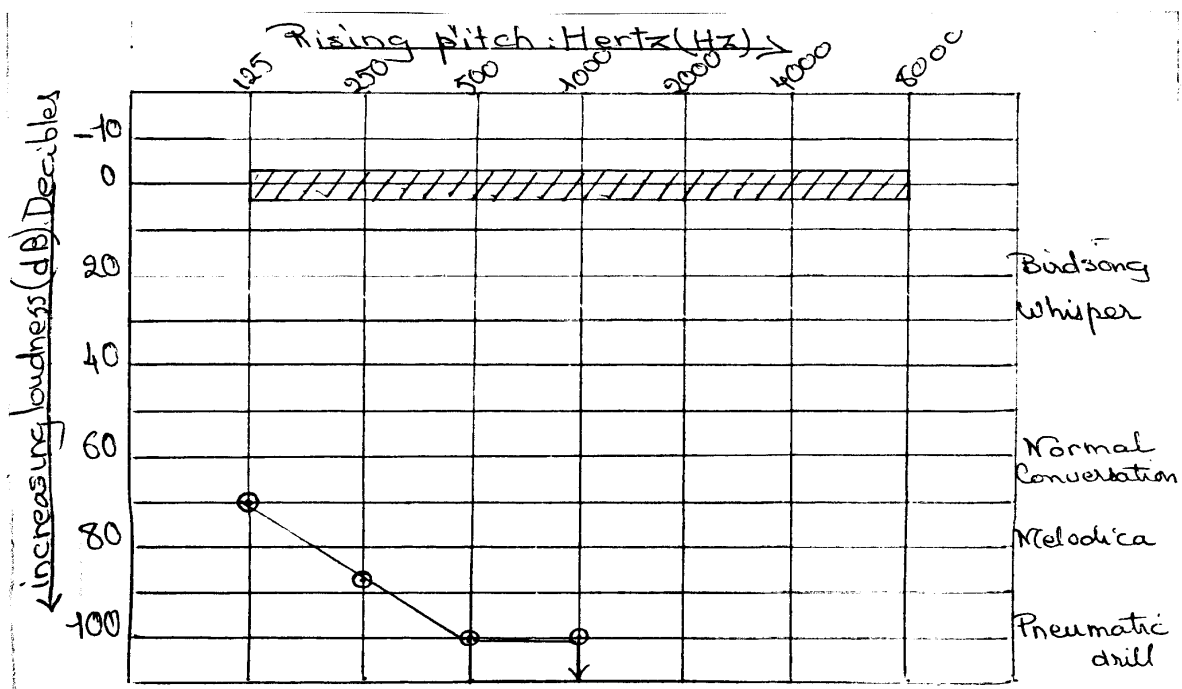
1. The child's responses to pure tones at varying degrees of pitch (frequency). The higher the rate of the vibrations, the higher the pitch of the sound produced. Pitch is measured in Hertz, (Hz). Mandell (1981, p. 248) states that vowels are in the lower frequency range of speech. (see Table 1).



2. The loudness or intensity of the sound. Intensity is measured through a scale worked out in decibels (dBs). Several factors may affect the reliability and validity of an audiogram. For example, the child's age, degree of cooperation, attention span, degree of perseveration, and the presence of physical ailment especially colds or ear infections. (Kalz et. al., 1978, p.8). Figure (1) shows an

audiogram comparing the ranges of normal hearing ability with the hearing of a profoundly deaf child.

Figure (1): Comparison of normal hearing ability with the hearing of a profoundly deaf child.

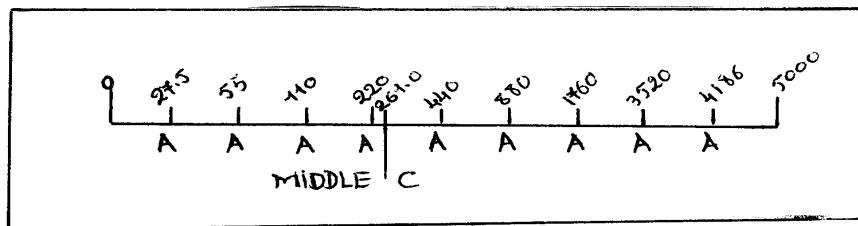


/// indicates the threshold of hearing within the normal range.

o-o-o indicates the threshold of hearing for a typical profoundly deaf child.

Figure (2): shows the frequency in cycles per second for the highest and lowest note on the piano, and also the frequencies of every note A. (Fahey and Birkenshaw, 1972, p. 40).

Figure (2)



Music generally is more intense than conversational speech. Music employs a much wider frequency range than normal speech sounds do. This is one reason why children with severe hearing loss who may have difficulty in aurally processing speech are still able to listen to and enjoy music. (Darrow, 1990, p. 25).

Classification of hearing loss

There is much agreement among researchers in the classification of hearing loss. The following illustrates not only the level of loss and its decibel area, but also hearing characteristics and typical educational services needed. These levels are also commonly known as: Mild level I, Moderate level II, Severe level III, and Profound level IV.

Level of loss	Db Area of loss	Hearing Characteristics	Typical Educational Services
	0-24	Normal Hearing	Regular Education
Borderline	23-35	Children may have some difficulty with faint speech sounds and with discrimination of certain sounds. Adult: essentially normal.	Regular Education: perhaps speech therapy
Mild I	35-54	Some difficulty with soft or faint speech sounds. Some difficulty in hearing speech at a distance.	Regular education is favorable. Adjustments may be needed in seating or lighting. Application for some. Speech therapy and/or lipreading.
Moderate II	55-69	Difficulty with loud and soft speech. Difficulty with telephone conversation. Some problem in understanding strangers.	Regular education with some support services. Some need special classes or special school setting. Speech-language therapy. Amplification.
Severe III	70-89	May identify vowels but have trouble with consonants. Hear only shouted or amplified speech. Late onset: possible deterioration in speech.	Regular education with support services but frequently special class or special school placement. Speech-language therapy.
Profound IV	90 and beyond	Severe handicap. may hear loud sounds. Must rely on other than auditory input. Prelingual deafness: possibly resulting in poor speech quality. Post-lingual: deafness risks deterioration in speech.	Usually special education services required with special class placement not uncommon. Speech language therapy. Educational assistance.

(Cartwright et. al., 1989, p. 120-124).

In addition, the two ears may have different amounts of loss. A child may have a 55 dB loss in the right ear, and an 80 dB loss in the left ear. Functioning at the level of the better ear, the child can be classified as moderately hard of hearing or level II. (Deiner, 1993, p. 154). Therefore, it is best not to form any hard-and-fast opinions about an individual's ability to hear and speak solely on the basis of a classification of his or her hearing disability. (Kauffman, 1991, p. 266).

Characteristics of Hearing-Impaired Children

Hearing-impairment may alter a person's communicative behavior, yet have little or no effect on other personal characteristics. Several studies (Freeman et. al., 1981, p. 187, and Watts, 1979, P. 494, and Cartwright et. al., 1989, p. 132) describe characteristics of children with hearing impairments. Some of these characteristics are described as follows.

1. Because of society's heavy dependence on language, it is no wonder that many hearing-impaired individuals prefer to grow-up in relative isolation. They may not easily make friends. When they do have friends they tend to be those who have the same disability.

2. Some studies have indicated that intelligence is distributed in the deaf population as it is in the hearing population, and that the average IQ of persons who are deaf is similar to that of hearing persons. IQ tests for deaf children should be nonverbal, and administered through sign language. Limited language facility, and

the manner in which intelligent behavior is measured can influence an individual's proficiency in expressing or revealing his or her intellectual capabilities.

3. Hearing-impaired children are usually described as hyperactive, and may show disorders of behavior. This seems to be related to a failure of socialization rather than to organic damage.

4. The speech of most deaf children and adults may be very poor in spite of training. There often is abnormality in rhythm, breathing rate, pitch and volume.

5. The deaf child who is loved and adequately cared for learns to look at the world as a friendly loving place in general. A child who is neglected and unloved views the world in a very different way. Becoming withdrawn or limited, or may fight back and become aggressive.

Some Difficulties that may Accompany Hearing Impairment

Hearing-impaired children who are studying music may find difficulty in:

1. Memory. They can better remember words that have a sign equivalent than words that do not, also shapes more than digits. Icons are valuable for them.
2. Concept Application. Hearing-impaired children learn concepts in the same sequence as hearing children, but perhaps at a later time. They may have difficulty discovering a concept and a symbol than in comprehending it or using it.
3. Opposition. Hearing-impaired children are found to have some difficulty on this dimension. (e.g., lines and spaces, sharps and flats).

4. Analogy. Hearing-impaired children may find some difficulty in this concept. (e.g., the note (E) on the treble clef, and the note (G) on the bass clef are both found in the fourth space).

5. Symmetry. Hearing-impaired children find little if any difficulty in this area.

6. Spatial Reasoning. Hearing-impaired children may develop a different concept of space, for they depend primarily on visual and tactile sense. (Martin, 1985, p. 5-7).

The Importance of Listening for Hearing-impaired Children

It is difficult to imagine how different our world would be without our ability to hear. Unfortunately, we can do little to improve a child's ability to hear. We can however do much to improve one's ability to listen. Listening, like any other skill, must be practiced through regular, sequential listening exercises. The ear is a valuable listening device and music is a powerful medium, through which listening skills can be taught, practiced and rewarded. Many people believe that to be musical one must have a "good ear", yet hearing-impaired children can be musical.

The ability of individuals to use their hearing for the purpose of listening varies. Good hearing does not necessarily insure skilled listening; conversely, poor hearing does not necessarily indicate loss of the ability to listen. While music listening is not totally dependent upon one's ability to hear well, hearing certainly

plays a significant role in the perception of music. Listening is a mental process, and hearing is a physical one.

We need to help deaf children develop good listening habits, for they are motivated to a high degree by the use of musical stimuli. We have to help them interpret the sounds they hear.

Here are some guide points for music listening experiences:

1. Awareness of acoustic stimuli. Help the child be aware that there is a music sound source.
2. Localization. Help the child identify the location of the musical sound source.
3. Attention. Gradually help the child to attend for a longer time to the music he is learning. Make it interesting and meaningful. Give the child a historical background about the life of the composer, the title of the piece, the main instruments.
4. Discrimination. Help the children discriminate between musical and non-musical sounds.
5. Auditory discrimination. Help the child discriminate between the timbres of different instruments. Help him locate the entrance and exit of specific instruments within the total music context by using charts.
6. Supersegmental discrimination (expression). Help the child discriminate qualities of the music (e.g., dynamics, phrasing, etc.).

7. Segmental discrimination (form). Help the child discriminate changes in the music (e.g., tempo, pitch, etc.).
8. Auditory memory. Help the child remember what instruments were heard.
9. Auditory sequential memory. Help the child remember in what order the instruments were heard.
10. Auditory synthesis. Help the child make critical judgments regarding, form, texture, and harmony. (Darrow, 1990, p. 20, 24, 27 - Darrow, 1985, p. 33 - and Stern, 1975, p. 298).

In adapting to the children's hearing loss, teachers should use all their knowledge, ingenuity and capacity to take advantage of all positive factors, including the children's residual hearing, sense of touch and sense of vision.

The Sense of Touch as a Means of Hearing

After he became deaf, Beethoven had a practice of clenching one end of a stick between his teeth, and resting the stick's other end against his instrument as he played. He was using the stick to conduct the vibrations from the music. With this primitive hearing aid Beethoven was able to get some concept about sound of his compositions, and to continue his great career despite the frustration of his handicap. (Burns, 1965, p. 42).

The sense of vibration is really the sense of touch. The sense of touch and hearing merge into one another in two ways:

1. The inner sense organ of hearing is a highly specialized organ of touch,

specialized to be touched only by vibrations of the air and never by a solid object.

2. When we hear the very low note of a pipe organ, we are probably feeling the vibrations as much as we are hearing it.

Different body areas can be used to hear the sounds. High notes can be felt in the head cavities, medium tones in the chest, and low tones in the stomach, legs and feet. (Graham, 1975, p.61 and Kaplan, 1972, p. 62). Through the skin, the bones, and even directly through the proprioceptive receptors of the nervous system, the deaf can feel the vibration of the sounds even as they are hearing the pitches. In their own way, many deaf children comprehend musical intervals. Through a touch from the tip of a deaf child's fingers he can distinguish whether the piano is vibrating rapidly (high pitch) or slowly (low pitch). The use of tactile and auditory techniques with the piano have been effective in training deaf children to vary the pitch of their voices in speaking, and in developing more normal inflection. (Grayson, 1972, p. 72, Fahey et.al., 1972, p. 44, and Cypret, 1963, p.12).

The Sense of Vision as an Aid to Hearing

Even by watching a film of a good conductor (his hands, baton, and face) a deaf person can follow what is conducted without hearing the music. (Epley, 1972, p.55). Besson, Tatorunis and Forcucci (1980, p. 200) describe a girl who lost her hearing totally in an accident. She learned to function as a percussionist in a concert band. Visual awareness of the conductor's gestures and of the students responses and

facial expressions contributed substantially to both her competence in performance and her enjoyment. The girl concluded that a person does not have to hear music in order to enjoy, appreciate, and perform it. (Besson et.al., 1980, p.200).

The Importance of Singing to Hearing-impaired Children

Singing is the core of any music program. Children express their feelings spontaneously in songs. Singing gives deaf children personal satisfaction, self confidence and effective emotional release. It helps to change attitudes from negative to positive, find pleasure, widen horizons and expand personalities. The act of singing encourages children to breath in balanced, phrased patterns. Singing helps language development, develops concentration, eye contact, and lipreading. It is an important part in the culture heritage of every child including the child with a hearing impairment (Vernazza, 1972, p. 56, Harbert, 1976, p.7, Keiner, 1984, p.9-10, and Edwards, 1974, p. 163).

Hearing-impaired children with high frequency losses may not hear sung words in the music, and hardly even understand the words from a recording. They do, however, usually hear the melody lines, the long-short patterns of durations, the accent patterns as established by the beat and the harmony, in fact, very much as do their hearing classmates. For this reason, hearing-impaired children can comprehend the basic concept areas of music. What is different in their perception of the music is, of course, the volume level. Naturally, it sounds softer. Also, there are

differences in perception of timbre or tone quality of instruments and voices. (Eunice Boardman et. al., 1981, p.79). Through knowledge of the child's hearing potential and the individual's

own perception, the music teacher can help the hearing-impaired child can gain much from excellent training. Give him or her every opportunity to hear, identify, and discriminate among non-pitched and pitched sounds. Help the child match his or her singing voice to the singing voices of the others and to pitched instruments. It is important that a singing program use actual vocalization on specific pitches, not chanting words in rhythm to an instrument accompaniment. A child does not automatically sing in pitch. A deaf child too, needs to learn to make his voice go up and down with the melodies of different songs. (Atkins and Donovan, 1984, p.42, and Edwards, 1974, p.120).

Choosing songs

1. Selection of songs should be based upon the interest, needs, abilities, ages, and experiences of the children.
2. Songs should have a clear rhythm.
3. The pitch of the sounds generally should be between the note middle C on the piano (261.63 Hz) and A (440.00 Hz) as this general area of sound falls well within the range of maximum residual hearing for almost all deaf children.
4. Songs should be simple with repetitive phrases.
5. Songs with repetitive choruses are better.

6. Use vocabulary within the group of the children.
7. Action songs that describe body parts, marching songs, and game songs are good for all children. (Veranzza, 1972, p.56, and Keiner, 1984, p.2).

Teaching a New Song

1. Words can be viewed on an overhead projector. The use of sign language aids in comprehension, but as the children become more proficient, the signs can be withdrawn in order to concentrate more on vocal production aspects.
2. The song can be repeated again with records to help develop tone and rhythm, and to improve enunciation and clarity.
3. Children should be wearing hearing aids to help them pick up the sounds of the piano. The pianist should emphasize the melody with a strong and precise rhythmic base, yet without making the music stilted.
4. The most effective positioning of students appears to be a half circle around the piano, where the children can feel the vibrations of the instrument, then even when the director withdraws the children can continue singing in the security gained from watching each other.
5. In a performance, some of the children can sign while singing. There are usually some deaf in the audience (Krohn, 1975, p.48-49).

The Importance of Movement and Dance
to Hearing-impaired Children

The value of movement and dance

The world of silence should not preclude the deaf child from participating in creating, and performing all forms of movement and dance.

Movement and dance.

1. Promote physical fitness.
2. Provide an outlet for the physical tensions that accompany the possible frustrations of the child's disability.
3. Give an awareness and assurance that the child can do things all children can do.
4. Help the child feel at home in space.
5. Develop coordination, self assurance, and graceful body carriage.
6. Improve gross and fine motor skills.
7. Help to develop the child's self-esteem, reliability, and pride in accomplishment.
8. Help to evolve harmony and balance.
9. Help to harmonize the auditory, vocal, and motor faculties.
10. Aid in rhythmic flow of verbal language.
11. Utilize the child's creative powers.
12. Encourage the greatest use of the child's hearing and hearing aid.
13. Expose the child to the pleasure of experiencing music so that in life

he/she may be encouraged to choose sound as opposed to silence.

14. Are vehicles that can be of maximum interest to the child and maximum usefulness to the teacher. (Edwards, 1974, p. 79-85, Brick, 1973, p. 160, and Kordula, 1975, p. 137).

Kinds of motor activities

Large motor activities. There are relatively few restrictions placed on the child with hearing-impairments when large motor activities are taking place. When using large motor activities it is important to:

1. Choose activities that help the child's sense of balance.
2. Choose activities that require stopping, starting and changing direction.
3. Help the child to perfect the skills of running, leaping, jumping, skipping, etc.
4. Have the child imitate animal's walks, to help him identify different styles of walking.
5. Help the child to use large motor skills safely to relieve pent-up energy and frustration.

Small motor activities. When using small motor activities:

1. Choose activities that require both visual and fine motor involvements.
2. Use finger plays to develop fine motor control.

Sensory motor integration. A hearing-impaired child often needs more practice than other children in developing balance skills. The following suggestions are provided to aid sensory-motor integration.

1. Provide a variety of activities that help in processing movement information in the brain.
2. Add a ball to activities to help focus concentration.
3. Have the child do various activities with a bean-bag on the head.
4. Provide opportunities for the hand and fingers to practice working together. (Deiner, 1993, p.163).

Using movement for musical concept development. All kinds of movement activities can be of great use in teaching the musical concepts. Suggested activities for specific concept areas include:

Pitch. Work with the children for the change of pitch, high, low. Ask the children to put their arms up for high notes, and down for low ones.

Intensity. Provide strong and weak beats, march heavily for the strong beats, and tip-toe for the weak ones. Interpret crescendo and decrescendo through movements from a crouching position to an expansive one, and back to crouching position.

Timbre. Perceive sounds as auditory cues. Ask the children when hearing a drum to move forward, and a triangle to move backward or left and right.

Direction. Play some musical instruments in different areas of the room, and ask the children to say it is "over there" or "over here". Also ask them to call each other from different corners of the room.

Form. Select songs suitable for adding movements. For example: "every time you hear this tune march, and whenever it changes stop" (Brick, 1973, p. 158-160).

The Importance of Instruments to Hearing-impaired Children

After an experience of accepting four deaf children in his school orchestra a teacher reported, "The chief lesson I have learned from teaching these children is that the normally hearing person probably does not have the qualifications to tell a deaf child what he or she can or cannot learn. It is rather for the deaf to tell us" (Folts, 1977, p. 456).

Music teachers should take into consideration the acoustic properties of an instrument as related to the hearing abilities of the deaf child who will play it. For example, a child with a hearing loss in the upper frequencies will not have a worthwhile music experience in playing a triangle if he/she cannot hear it. Some instruments are naturally more resonant (e.g., wooden sound source) than others. Often the child is the best judge as to which instrument is the most musically satisfying. Teachers also should know that supervised practice is often necessary for success, particularly at the beginning stages (Nocera, 1979, p. 244).

Preferable Instruments for the Hearing-impaired Child

1. Hearing-impaired children can play many classroom instruments (e.g. all drums, cymbals, wood blocks, triangles, maracas, sand blocks and other percussion instruments). Instruments can be used to play a beat a simple pattern, or to give special effects.
2. Melodic percussion instruments such as resonator bells and xylophones also can be used to good advantage.
3. Among wind instruments, clarinets and saxophones have been very successfully taught to children with hearing-impairments.
4. Brass instruments are understandably more difficult for the deaf because of the over tone structure of such instruments. Still many deaf children like these instruments and play them well.
5. The harp and guitar are not unrealistic choices. The playing position brings the sound close to the ear, and body contact with the instrument provides tactile reinforcement through vibration.
6. Flute type melody instruments are probably the least successful. The sound of the recorder will not have much to offer, for the deaf child as it is less resonant and the pitch is high. The sound holes are wide and can become very difficult for small hands to play.
7. A one stringed violin or cello may be used successfully if a regular instrument proves to be too difficult.

8. Although a few deaf children may not hear much of the sound of the tambourine, it still can be used to advantage. It helps in teaching silence. Children can play it with their hands, stop, then knees, hands, stop, elbow hands, stop, etc.

9. Melodicas are invaluable in working with deaf children of all ages because they have a range of notes from F below middle C (170.76 Hz) to high F (698.46 Hz). The sound level of the instrument is about (80 dB), and the range of notes is well within the area of their maximum residual hearing.

10. Keyboard instruments generally are recommended for the hearing-impaired children. The children do not have to correctly produce a pitch. The instrument does it automatically, and the correct keys can be seen and felt. Thus, the keyboard provides a visual analogue to pitch, half step, octaves--and so on. (Walezyk, 1993, p. 41,42, Nocera, 1979, p. 244, and Keiner, 1984, p. 24, 25).

The quality of the instrument

Music teachers who have worked with hearing-impaired children recommended using the finest quality instruments. If the children are to use their hearing to best advantage, it is necessary to give them something worth that listening. (Edwards, 1974, p. 121).

Some suggestions for teaching drums and melodicas.

Drums. Drums are one of the most popular instruments among hearing-impaired children. They provide excellent tools for teaching rhythmic patterns.

1. Let the children feel free to play the drums. They usually will need to do this before readily accepting direction on the instrument.
2. Let children play the drum with the hands, then with a mallet, beating a definite pattern (e.g., slow, fast, loud, soft and stopping). Use some rote playing so that the child is copying from an adult.
3. Help children alter hands in using the mallets (right, left...). The mallet must move off the drumhead in order to the skin free to vibrate.
4. Let the children march or run to your drum. Beat then stop. Change positions so the adult walks and the children play the drum beats. It is only when the child learns to control the group, that he realizes what was expected of him.
5. Introduce rhythmic notation, and help the children to count (Tettese, 1974, p. 220; Keiner, 1984, p. 5-6; and Darrow, 1985, p.34).

Melodicas. The actual playing of the melodica demands a fair degree of coordination, for a key must be pressed down, while at the same time the child must blow out without voicing.

1. Have the child put his finger down on a key, take a good breath and blow out one long note. Repeat this on different keys up and down the instrument.
2. Put one finger down on a key, and take a good breath. Blow out again, but this time separate the sounds by moving the tongue rapidly.
3. Blow and press the key at the same time.
4. Do not continue if the child becomes tense. Try again later.

5. Get the child to imitate you. Play a very simple tune. Let the child play it after you, then give him/her the chance to make his/her own tunes. Show interest in the melodies made, praise the child. Finally, consider adding some tone colors and/or simple words, sing it to the child, write it down and show the child how it looks.

6. If the child likes the writing, he/she may ask you to teach him music notation. (Keiner, 1984, p.17-23).

Some Hints for the Music Teacher of Hearing-impaired Children

A music teacher of hearing-impaired children should:

1. Know that any communication method that the child understands is a good method, whether only words, only signs, or both. Once the children can understand, the communication method is good.

2. Be a musician, a music teacher, educator and more.

3. Be willing to try teaching concepts and activities that many music teachers and even educators of the deaf may say cannot be accomplished. Try every musical goal that hearing children try.

4. Be sure that the children are wearing their hearing aids at all times.

However, when experimenting with the drums for the first time, hearing aids should be turned off, since a very loud clap can be painful.

5. Balance between necessary discipline and absolute freedom. With children who have hearing-impaired this is sometimes difficult, because they must be made to keep in careful contact with you or the activity. When they look away or do not pay attention, the purpose of learning is lost. At the same time, they must feel free enough to feel, to express, to create, to move and to relax. You must be friendly but firm. Activities must be fun, exiting, and stimulating without leading to chaos (Edwards, 1974, p.112-117).

6. Try to capitalize on the residual hearing of every child. Use it whenever possible. Encourage the child to listen as well as look when information is presented.

7. Provide visual access to give information. A child with hearing impairment learns a lot from seeing things. Transparencies, films, film strips and pictures can be valuable teaching aids.

8. Establish opportunities for regular feedback. This helps children to know whether their behavior matches expected behavior, enabling them to measure their performance against a chosen standard. When a hearing-impaired child is struggling to acquire new knowledge, frequent feedback is necessary. (McCoy, 1987, p.90-94).

9. Use an overhead projector to note important points so that you can face students while lecturing.

10. Avoid moving around the room while speaking so that the students can see your face.

11. Shorten and simplify verbalizations.

12. Repeat main points.

13. Require students to raise their hands and reduce the noise and confusion that results from several people talking at once.

14. Divide learning materials into small segments or steps. Carefully sequence these steps from simplest to most difficult.

15. Use concrete examples and experiences to teach concepts.

16. Provide much drill and practice to promote mastery.

17. Give the children enough time to talk without feeling rushed.

18. Always respond to the child's communication. If you understand, reply, if not try to have the child tell you or show you in a different way.

19. Make sure that the child with the hearing-impairment is not always receiving help, but giving it as well.

20. Attract the child's attention before speaking. Call his name and wait to make eye contact (Deiner, 1993, p.158-163).

The Mechanics of Teaching

Personnel

It is good to have two teachers, or a teacher and an assistant. The assistant plays the piano, and the teacher should be around the piano for too much talking without musical experience accomplishes little with hearing-impaired children. Too much looking without enough hearing, touching, feeling, moving does the same. Music will give its own message if enough opportunities are given.

The music room

The size of the music room depends upon the size of the classes that will meet in it. The class needs enough room to allow free rhythmic activities and expression. Lighting in the room should be adequate. The storage space should be easily accessible for both teacher and students. Instruments used should be called by their proper names.

Scheduling and class size

In general, the scheduling of classes will depend upon the school, or the school system. Younger children should have shorter music periods than the older ones. For pre-primary and primary age children approximately twenty minutes daily is recommended. Intermediate students will benefit from thirty minutes. Older students should have forty to forty-five or fifty minutes. The number of times a week to five each class a minimum of time would be two sessions a week. More sessions a week, especially for younger ones is most desirable. Class size depends on the age level with which the teacher is working. An ideal size is about six to eight children at primary level.

The age to begin

There is no specific age at which deaf children should begin to learn about music. They should begin to have musical experiences from the time they are born (Edwards, 1974, p.114-119).

CHAPTER III
A CURRICULUM FOR TEACHING
DEAF CHILDREN PIANO PLAYING

Considerations for Teaching

1. Be patient and loving; normal hearing children need patience, hearing-impaired children need even more. Relax so the child can relax.
2. It is always better if the child's parents can attend the lesson. They can take your place while the child is practicing at home.
3. Make positive remarks.
4. Praise every tiny progress the child makes, even the ones you think are normal and do not need praising.
5. Two lessons a week is a minimum.
6. Good sitting hand positions always help good playing.
7. Help the child to make his music more expressive. Sing forte and piano parts. Add rallentandos to what he plays, without marking his book. When he plays it the way you want, then add the marking.
8. Touching can be a good way for helping a child understand timing in music. Another child may prefer help in another way. What suits your child is always the best.
9. If you need to make any transposition, do not hesitate to do it.

10. Start your lessons with some finger exercises. The right hand, then the left. Start with the first and second finger, for example on C and D. Put some funny words to these exercises to interest the child. Play the same exercise two octaves higher so the child can see your hand and imitate you. Help him articulate; it strengthens his fingers. Do the same thing with his second and third fingers. When you are sure these fingers are moving correctly add the fourth then the fifth.

11. Finish every lesson with a five minute singing activity. Help the child sing a song, a scale, or an arpeggio. Play the piano with one hand and make gestures with the other hand showing how your pitches are going, up or down, in steps or in skips.

12. Be sure the child learned something new before he leaves.

13. Do not move to a new lesson until the child knows well the preceding lesson. What is important is not how many lessons he reached, but how well he plays.

14. Give as many four hand pieces as you can.

15. Encourage recitals. They have wonderful effect on children.

Lessons

Lesson 1: Sound and Silence

Make clear sounds from a visible source. Play some chords on the piano, or beat a drum. Ask the children to tap or clap their hands as long as they can hear and see the beating, and to stop when it stops.

Ask the children to stand with their backs touching the back of the piano. Play some strong chords. Tell the children to follow the sounds they feel and hear with clapping and to stop when the sounds stops. Play the same example once more but ask the children to go away from the piano and turn around so that they cannot see it or feel it. A recording also can be located somewhere that the children can not see it. Let the sound source be invisible and ask the children to respond to the sound they can hear in any way they want, and to stop when it stops.

Games:

1. Give each child a small chart that has a stop sign. Ask him to hold it up every time the sound stops.

2. Let the children sing any song they like. Tell them that every time you will hold up the stop sign, they have to stop singing. When you'll put it away they start again.



Lesson 2: Music and Non-Music

After the children know well the difference between sound and silence, help them to learn the difference between musical and non-musical sounds. Sing a very familiar song, (e.g., Happy Birthday). Watch how the children respond to it. They may sing or hum, clap, or move. Suddenly make a non musical sound (e.g., blow a train's horn whistle, or drop a wooden box on the floor. Probably they will stop their activities. Do this again. Use dancing music record for the musical sound. For the non musical sound just drop your hands to play as many notes as they can at the low register of the piano. You can also add the right pedal to it. By this the children will understand the difference between the musical and the non musical sound.

Games:

1. With eyes closed, let each child put one hand on the organ or keyboard speaker. Have the keyboard play a musical melody or rhythm. Then play any non-musical sound from a different source. Ask the children to keep their hands on the speakers so long as they can hear music, and to put them up when a non musical sound is heard.
2. Hang two big charts on the board. One chart should show a group of children singing. The other chart shows a fire engine. Play a tuneful music recording of a vocal selection. Next play a recording of the siren of the fire engine. Ask the children to point to the correct chart as they hear the recordings.

Lesson 3: Sound Localization

Localization of sound is discovering where the sound is coming from. Let the children close their eyes. Choose two children and give each an instrument (e.g., a drum and a bell). Let these children hide in two different places in the room. Ask the class to open their eyes. Say, "Child number one start." The child having the drum will start playing it. The class had to point to the place the drum beats are coming from. Do the same for the bell.

Games:

1. Divide the class into two groups. One group hold animals pictures. The other group imitates the animal's sounds. Let the children imitating the animal's sounds hide in different places of the room, and start making these sounds. For example, the child having the dog's picture, when hearing the dog's sound will run and put the dog's picture at the partner's feet.

2. Repeat the preceding game. This time instead of the animal's sounds and picture use classroom musical instruments and their pictures.

Lesson 4: Tempo--Fast and Slow

Make a play by telling a story of an old man who once took his grand children and went to the zoo. Use examples of differing tempos as part of the story. For example, the grandpa walked slowly, while his grandchildren ran fast. At the zoo, they saw many animals; some moved slowly like turtles, elephants. Others ran fast like rabbits. Play some background drum beats, or music. Use slow beats for turtles and other slow animals. Use fast beats for rabbits and other fast animals. Use icon charts to help children visualize tempo differences.

Games:

1. Give every child two picture charts, one of the rabbit and the other of the turtle. Ask the children to listen to a recorded or played example. If it is a fast tempo, they have to put the rabbit's chart up; and if it is a slow one, they will put the turtle's chart up.
2. Give every child two sticks. Ask them to gather around the piano, even to touch it with their backs if they need. Play any clear rhythmic piece of music. Play it slow then fast. Ask the children to follow the tempo.
3. Let the children go away from the piano. Play musical examples of varying tempos. Ask them to run when hearing fast music, and to walk when slow one.

Lesson 5: The Piano--Register and Range

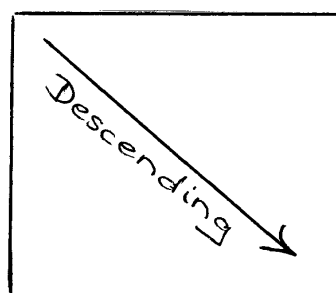
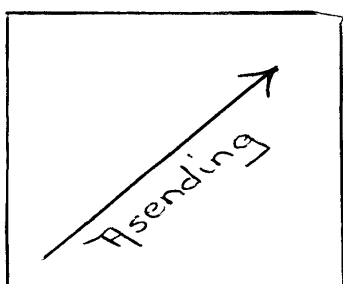
Call the children around the piano. Help them to know every thing about it. After exploring the sounds of the keyboard, ask the children to imitate the sounds of the lions. Let them find on the piano a similar sound. Then explore the sound of the birds. Finally the sound of the sheep. Use these examples to aid the understanding of low, high, and middle register.

Next the teacher plays the three different registers on the piano. Ask the children to stand with their backs touching the piano if they need for clearer hearing. Let the children stretch when hearing high sounds, stoop when hearing low ones and stand straight for the middle sounds. Again the teacher plays these registers and asks the children to imitate in body movements the animals that sound like the example. An analogy of men, women, and babies voices can be used for describing the three registers on the piano. Dark, light, and medium colored cards also may be of some help. Finally, go over the musical terms for the registers, high, low, and middle, also where they are on the piano keyboard.

Lesson 6: The Piano--Direction and Intensity

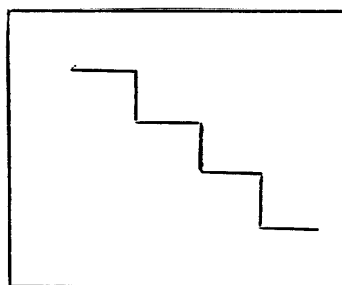
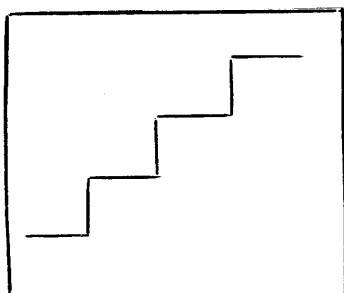
Direction. Gather the children around the piano. Play a descending glissando, then an ascending one. Ask the children to stretch their arms to the right when hearing the ascending, and to stretch them to the left when hearing the descending. Let the children try to play these glissandi themselves on the piano.

Choose songs that have clear ascending and descending parts. Let the children sing them. Then ask the children to tell you where are these parts. Use several charts, each with either an up-word or down-ward arrow.



Place some charts in an ascending manner on the floor. Others on a descending way.

Ask the children to step upward and downward on these charts when hearing an ascending and a descending melody. Children can also play the ascending and descending parts of their song on the bells. Use as many examples as you can.



Intensity. Ask the children to press hard and then softly some of the piano keys. Start from the low register to the high. Ask them if they can hear the loudness differences. Let the children get away from the piano and say, "If you hear loud music, march; if soft music, tip-toe."

Give each child a turn to play some of the percussion instruments. For example, use drum, triangle, sand blocks, sticks. Play any piece of music on the piano. Change the expression a number of times from loud to soft. Ask the children to accompany you with their instrument and play loud when hearing loud, and soft when hearing soft. Follow up by helping the children to sing some parts loud and others soft in one of the songs they like.

Lesson 7: The Quarter Note

Invite the children to stand with their backs touching the piano. Play a clear rhythmic piece. Ask the children to clap with you. Then ask them to move away from the piano, and do the same thing. Play a different piece, still with clear rhythm. Ask the children to walk to it. First have them only walk then walk and clap.

Let each child take one of the band instruments. Play a third piece on the piano letting the children follow the beat with their instruments.

Put up a quarter note chart:

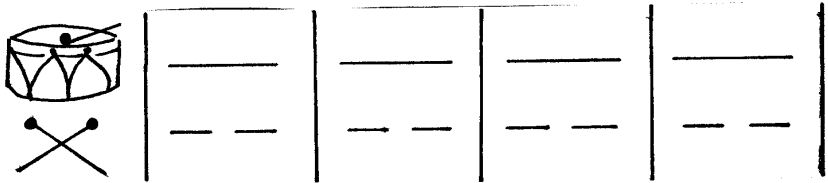


Tell the children this is how all the people around the world draw the quarter note. It equals one beat in the examples of music that we were clapping and playing.

Lesson 8: The Half Note

Following the same as procedure as in the previous lesson, ask the children to stand with their backs touching the piano. Play any piece with clear rhythmic half and quarter note patterns. Help the children to clap the beats. Ask, if the sounds were all of the same length or there were any longer and shorter ones. After recognizing that there were different lengths of sounds, let the children clap to the music again, walk to the beat, or play the beat with their band instruments. Then have them clap to the rhythms in the songs. Give any number of examples you feel they need to distinguish between the beat and the rhythm having longer (half-note) sounds.

Divide the class into two groups. Give one group drums and the other sticks. Let the drum holders play long sounds (half notes, but do not yet mention the name) saying, "long." Have the students with sticks play next. Instruct them that for every long beat of the drum they will play twice saying, "short, short." Use this chart.

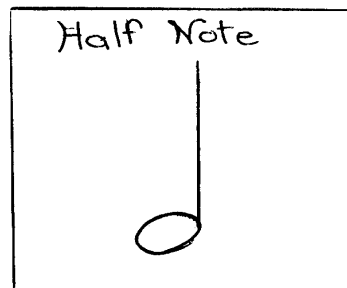


So:

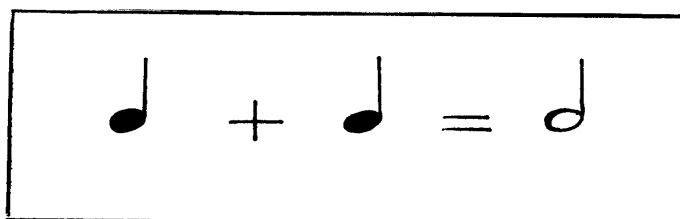
Short + Short = Long

- + - ----

In this exercise we will call our long note "half note" and the short ones quarter notes. The half note looks like this:



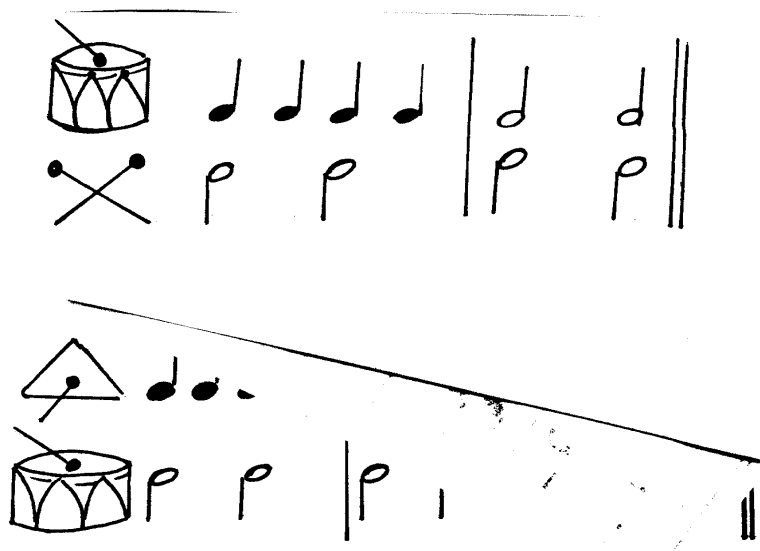
So, every two quarter notes will equal _____. (Give the children the chance to think and answer.) Then present this chart:



Give the children some rhythmic exercises to play with their instruments. For example:



Give more exercises. Divide the class into two groups. Give each group drums, or triangles or sticks. Help them play these exercises:



Let each group practice its line alone then, put them together. Change the parts.

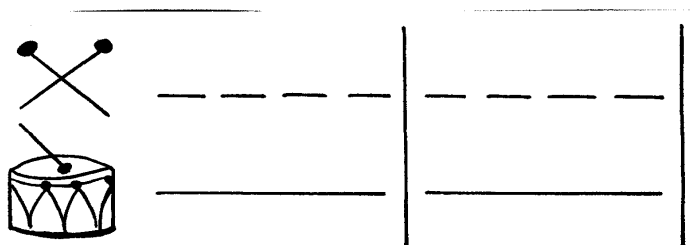
Give more exercises if needed.

Lesson 9: The Whole Note

As in the previous lesson, ask the children to stand with their backs to the piano. Play any clear rhythmic piece with whole notes and quarter notes. Help the children to clap the beats. Ask if all the sounds were of the same length, or there were any longer and shorter ones. After recognizing that there were some very long sounds, let the children clap or walk to the rhythms, or play them with their band instruments. Give any number of examples you feel they need.

Divide the class into two groups. Give one group drums and the other sticks. Let the sticks group play four beats saying, "short, short, short, short." Then let the drums group play one beat for every four beats of the sticks saying, "long."

Present this chart to make it clear:



Now, ask the children, how many short sounds did our long sound match this time?

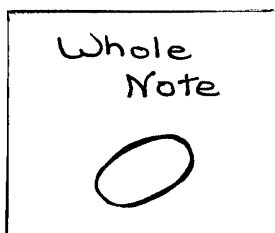
Give them the chance to think and answer.

So,

- + - + - + - = ----

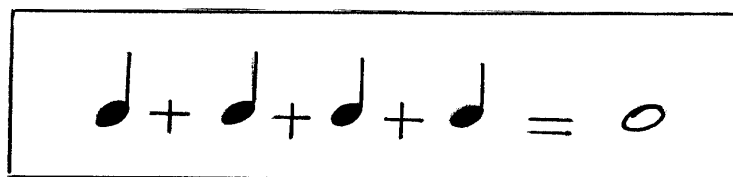
Short + Short + Short + Short = Long

Explain to the children, "In this case we will call our long note a whole note.
We already know that the name of the short note is quarter note. The whole note
looks like this:"

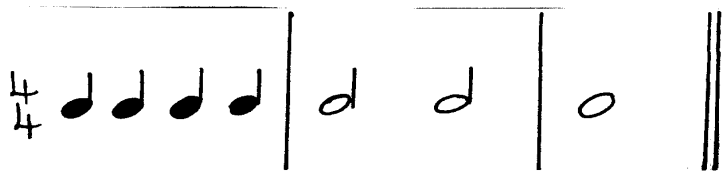
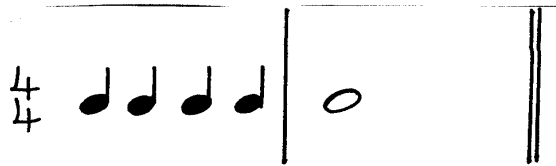


So, every four quarter notes will equal _____ (give the children the chance
to answer).

Use this chart:



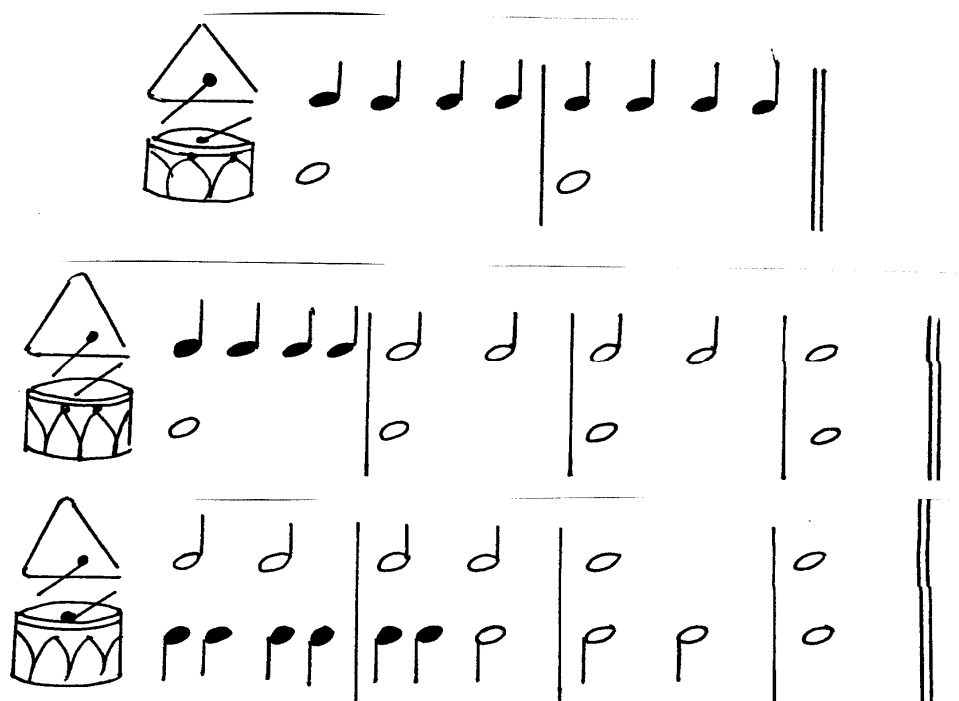
Give some exercises that the children can play with their instruments.



Tell the children that they can count out these exercises. Explain, "If we will give every quarter note one beat, then our half notes will take two beats and our whole notes will be as long as four quarter notes. Now play and count."



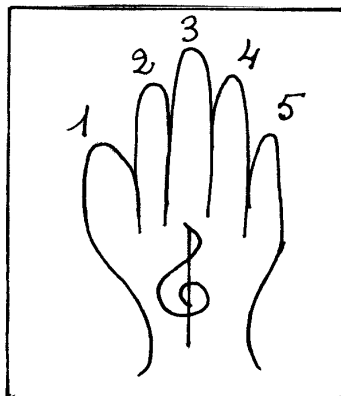
Again divide the class into two groups. Help the children to play these exercises with drums and triangles.



Add more exercises if needed. Let every group try his part alone first. Help the children count.

Lesson 10: The Treble Clef and the Fingering

Let every child put his right hand on a piece of paper, and draw it. Draw a big treble clef on the backward. Let the child draw his in the middle of the drawing of his right hand. Use colors to attract the children. Help them drawing if they can not draw it by themselves. Cut around the fingers and put an elastic rubber to hold it to their hands, let each child write his name in the inner side. Use a chart like this to make it clear.



Almost all the children know this song, "If you're happy and you know it".

Change the words into:

If you're happy and you know it show your fifth,

Yes, I'm happy and I know it here's my fifth.

If you're happy and you know it,

Then you're life should surely show it.

If you're happy and you know it show your fifth.

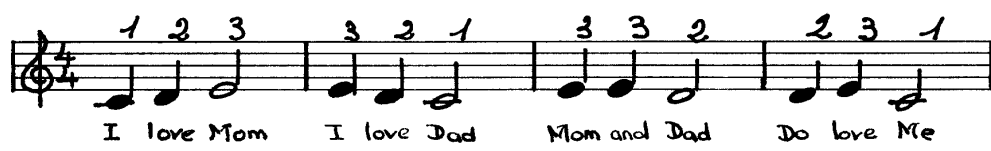
Sing it changing the number of the finger every time and pointing to a certain child to answer back.

Lesson 11: The Place of the Keys C,D,E on the Keyboard

Help the children to find the groups of black keys, helping them notice that there are groups of three and two. Ask for the group of three then the group of two. Let the children play these keys in the low, high, and middle register of the keyboard.

Teach the D's place first as it is the key placed between the two black keys. Ask the children to play all the D's from low to high (down to up), and the opposite way. Let them do this with their second finger. Then teach C, as it is the key before the D. Find C on all the keyboard. Let them play it with their first finger (thumb). Finally the E, as it is the key next to D. Let them play it with their third finger.

Make a simple song of these three notes. Teach it to them by rote. For example:



Let the children use the correct fingering. Help them to sing the song. You can change the names instead of Dad and Mom, to Jack and Jill, or any other one-syllable name.

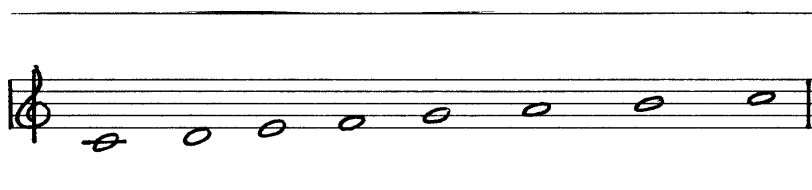
Ask the children to make their own songs with these three notes (keys).

Lesson 12: The Staff

Children need to know that music is written on lines and in spaces. Draw a very big staff on the floor. Count the lines. Ask the children to count with you out loud. Also, count the spaces. Choose five boys. Give each a number 1-2-3-4-5. Tell them that they have to watch the numbers you're going to write on the blackboard. Each boy sees his number, jumps on this line. Choose four girls. Give each a number 1-2-3-4. Let them stand in the four spaces. Then do the same thing you have done with the boys.

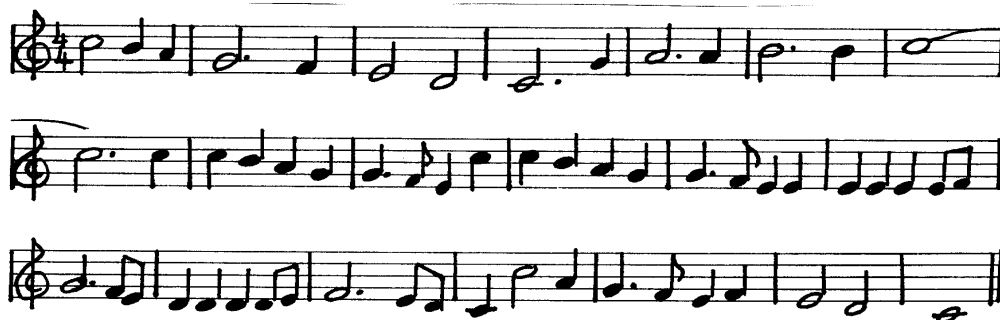
Lesson 13: Music Moves by Steps or Skips or both

Gather the children round the piano. Play the scale of C and sing it on "la". Ask the children to play it (at this time do not stress the right fingering but rather the concept of the steps). Have the children sing the pitches on "la" also if they can. Ask them if they have jumped any key. Illustrate to the children that as we did not skip any key on the keyboard, it is the same on the book. The step wise written notes come one after the other, line, space, line, space. Show the following example:



Play a song that moves mostly in steps (e.g., Joy to the World). Ask them, "Where do you hear the step wise part of this song. Is it an ascending or descending melody." Use some hand gestures while singing. This may make it easier for them.

Example: Joy to the World (steps)



Also music can move in skips. Skips can be wide or small. Give examples for each case on the keyboard then notated in a book. A good example for the skips is the song "Oh, Dear! What Can the Matter Be?"

Example: Oh, Dear! What Can the Matter Be? (Skips)



Most music has both steps and skips. A good example is the song Oh, Susanna.

Oh, Susanna (Steps and Skips)



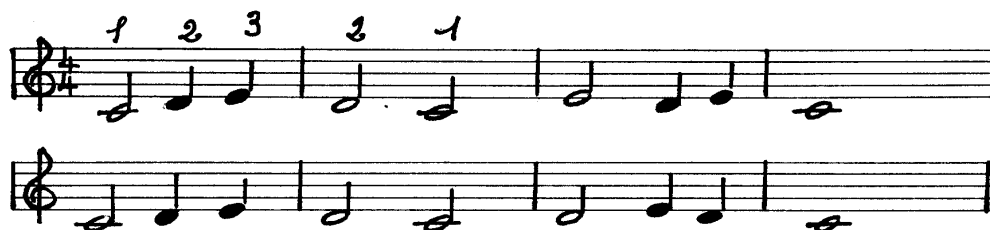
Lesson 14: Reading the Middle C, D, and E

Draw a big staff on the blackboard. Illustrate to the children that some notes do not appear on the staff. We need to add some extra lines. These extra lines can be above or below the staff. Middle C is one of these notes. Add a line to the staff you have already drawn on the blackboard and write middle C. Let the children also write it. Help them to sing this note and finally to play it on the piano. Write four middle C quarter notes. Ask the children first to play them with their first finger then the second and finally the third. Help them to sing C-C-C-C while playing.

Give another example of the same note but in different rhythm. Ask the children to use the three finger positions.



Do the same thing for the notes D and E. Give some exercises that have the three notes.





Try to let the children find a good position. Follow the right hand fingering and sing the letter names. If they can count, encourage them to do it.

Lesson 15: Reading the F and G

A. At the keyboard. Help the children find the keys of F and G on the keyboard. Again go back and make clear the division of the two and three black keys. The F is the key to the left side of the three black keys. Ask the children to find all the F's on the piano. Now ask them to find (F-C-D-E). Change the order until you are sure they understood.

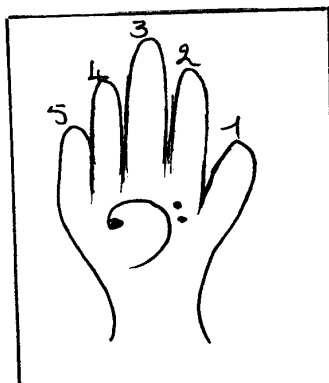
B. On the staff. Draw a staff. Write the notes C-D-E. Ask the children to find the first space. Draw the F note in it. Help the children draw it themselves. Do the same thing for the G. The following are some exercises that included the five notes. Help the children to play them on the piano.



Lesson 16: The Bass Clef and the Notes Middle C and G

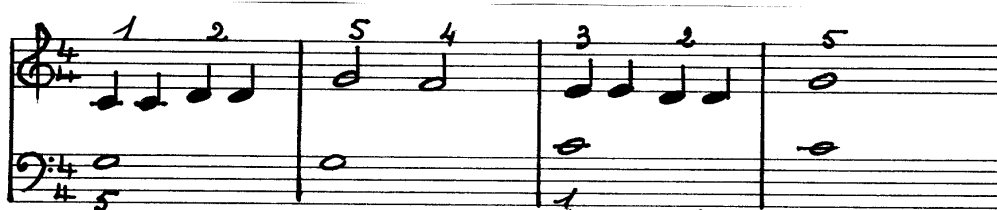
Let every child put his left hand on a piece of paper, and draw around it.

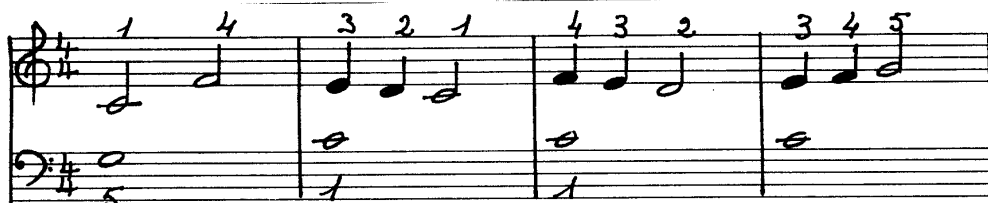
Draw a big bass clef in the middle.



Then repeat the procedure that was done for the treble clef. Draw the bass clef on the staff. Ask the children to do the same. Draw the note middle C. Ask the children if middle C in the treble clef was written above or below the staff. What about its place in the bass clef?

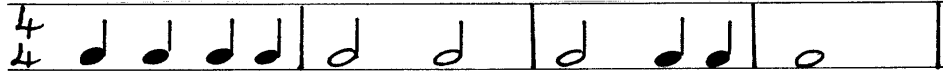
Let them point to the fourth space. Draw a note in it. Tell them that this note is called G. It is under middle C. Help them to find it on the keyboard. Add these two notes to the exercises they have already played.





Lesson 17: The Quarter and Half Rests

Write this rhythmic exercise on a chart.



Ask the children to clap it or play it on their drums. Then ask them to listen and watch their teacher carefully as she plays the same exercises on her drum. (The teacher has to be careful when playing this exercise to put her hand away from the drum on the rests).

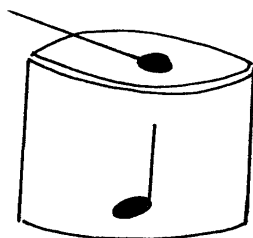


Now ask the children if they have heard any difference between the two exercises. Write the exercise with the rests on a chart. Point to the rest and tell the children that is the way we write it. That is the difference you heard in the two exercises. In music we can keep silent. Each note value has a rest value. The quarter note's rest value looks like this.

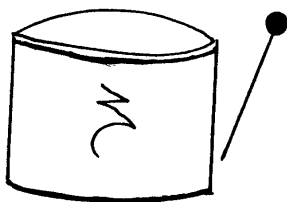
Show this chart.



So, here you play your drum



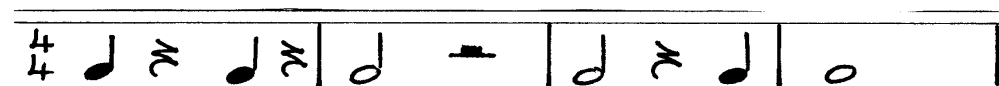
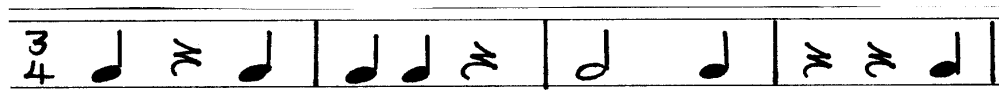
and here you stop.



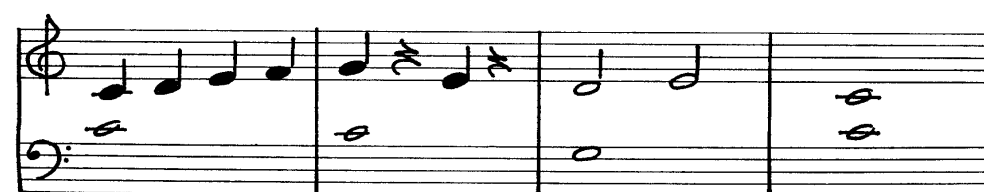
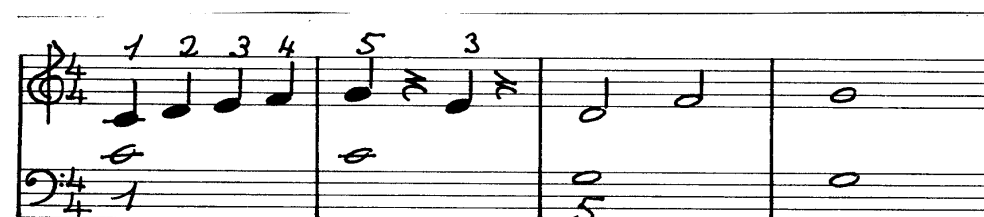
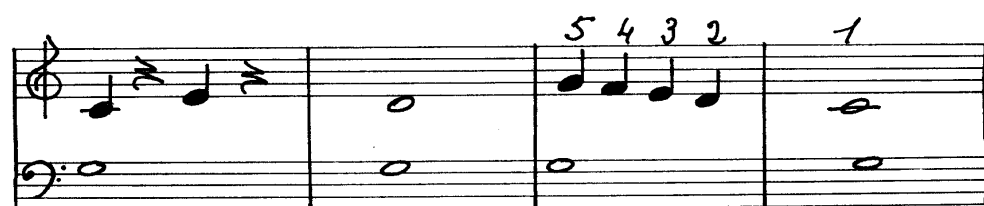
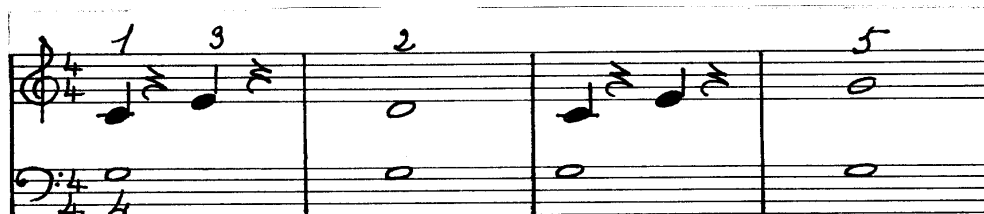
Also since half note equals the time of two quarter notes, so does its rest. It look like a hat. Use this chart.



It takes the same length of two quarter notes. Give the children these exercises to play on their drums or bells.



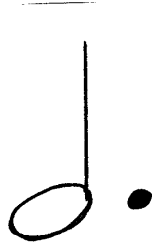
Tapping the length of the notes on the children's forearm and removing silent on rests may help the children who find difficulty getting the idea. Encourage the children to play the following piano exercises:



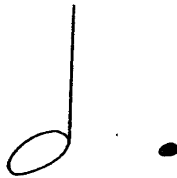
ساعت من الحذر

Lesson 18: The Dotted Note

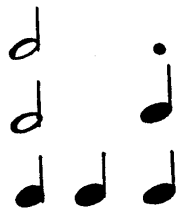
Ask the children if they know how many quarter notes would this half note equals.

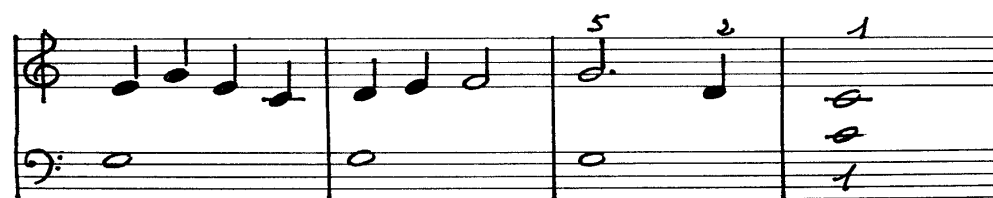
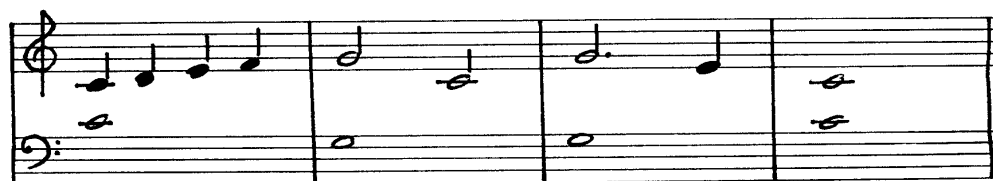
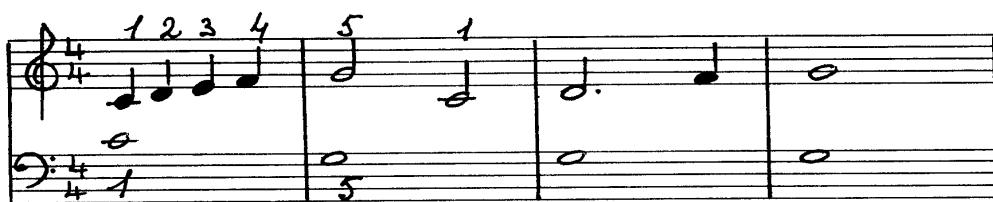


The answer is inside here. Hold up this chart and let one of the children open it.

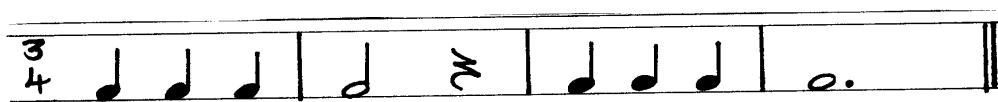
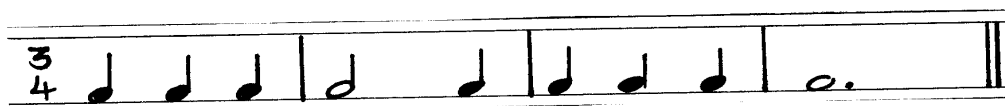
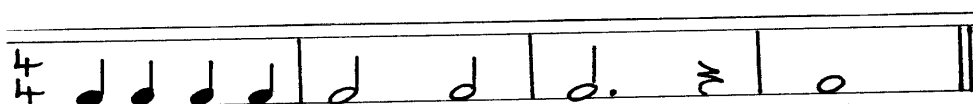
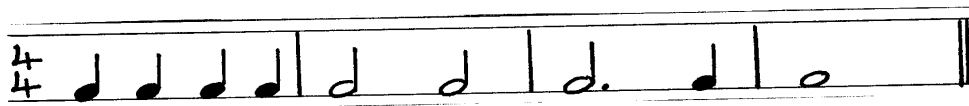


Hang this chart on the board. Ask the children to clap as you will point.





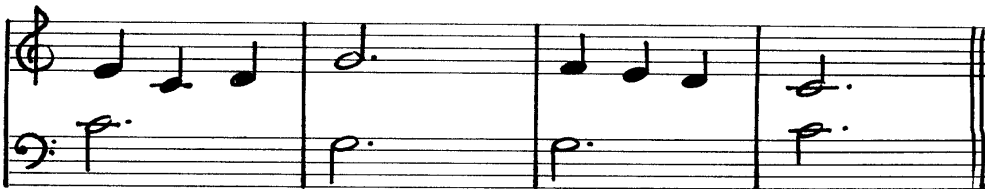
Write the following exercises. Encourage the children to play them on their drums.



Help the children to play the following piano exercises:

The image shows two staves of piano exercises in G major (one sharp) and 4/4 time. The first staff consists of four measures. The first measure has a treble clef and a bass clef, with notes G4, A4, B4, and A4 in the treble and G3 and B2 in the bass. The second measure has a treble clef and a bass clef, with notes G4 and B4 in the treble and G3 and B2 in the bass. The third measure has a treble clef and a bass clef, with notes A4, B4, and A4 in the treble and G3 and B2 in the bass. The fourth measure has a treble clef and a bass clef, with notes G4 and B4 in the treble and G3 and B2 in the bass. The second staff also consists of four measures. The first measure has a treble clef and a bass clef, with notes G4, A4, B4, and A4 in the treble and G3 and B2 in the bass. The second measure has a treble clef and a bass clef, with notes G4 and B4 in the treble and G3 and B2 in the bass. The third measure has a treble clef and a bass clef, with notes A4, B4, and A4 in the treble and G3 and B2 in the bass. The fourth measure has a treble clef and a bass clef, with notes G4 and B4 in the treble and G3 and B2 in the bass.

The following two exercises have three beats to the measure (meter in three) instead of four.



Lesson 19: Reading A and B

A. On keyboard. Help the children find the two notes on the keyboard. Start by finding the B, the note on the right side of the three black keys. Let the children find all the B's on the piano. Then ask them, "which is the only key we have not found?" Let them find it; it is the one before the B. It's called A. Find all the A's on the piano. Now ask the children to tell you the names of all the keys from any place on the keyboard.

B. On the staff. Draw a staff and then write the notes they already know well from middle C to G. Ask the children to draw a note on the third line. That is B. Now that you have a note on the second line, and another on the third line; can you draw a note in the space between them? Which space is it? The note in the second space is A. Make a game finding the place of each note. Give the children the following piano exercises to play. (Note: the teacher should mention to the child that on the third measure we change the finger on E.)



Twinkle, Twinkle Little Star

The musical score is written in G major (one sharp) and 4/4 time. It consists of three systems of two staves each. The first system includes fingerings (1, 5, 4) and a first-position bass clef. The second system has a whole rest in the bass. The third system ends with a double bar line.

System 1:

Treble staff: G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter).
Bass staff: G3 (half), 1 (first position).

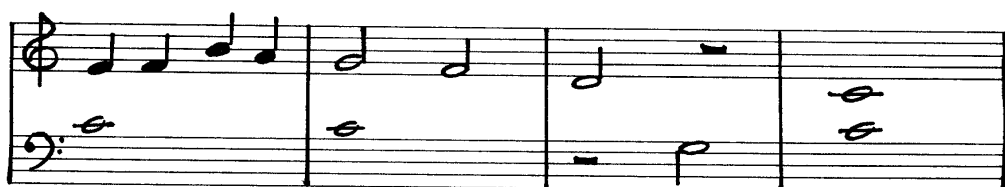
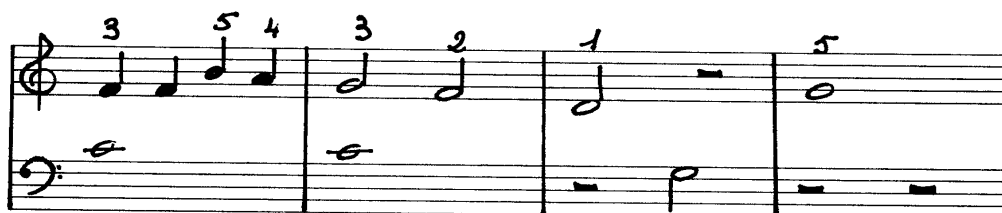
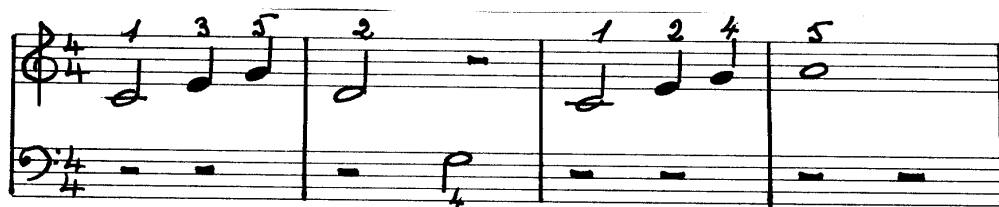
System 2:

Treble staff: D5 (quarter), C5 (quarter), B4 (quarter), A4 (quarter).
Bass staff: G3 (whole rest).

System 3:

Treble staff: G4 (quarter), A4 (quarter), B4 (quarter), C5 (quarter).
Bass staff: G3 (half), G3 (half).

The thumb in this exercise moves up in each of the first three measures.



Lesson 20: The C above middle C

A. On the keyboard. Play middle C key. Ask the children to play the next C above middle C.

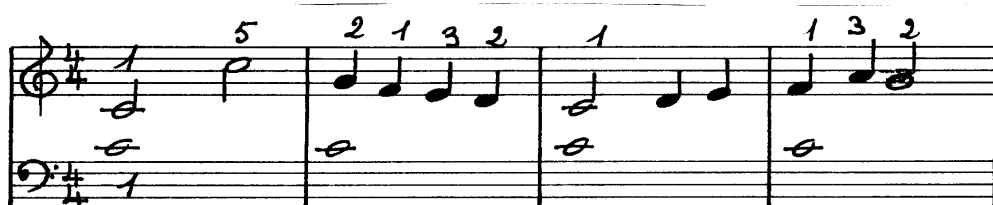
B. On the staff. Play and sing the scale of C. Start at middle C, stop for a moment on the note B; then sing and play the C. Invite the children to do the same thing with you. Ask them if they feel better stopping on the B, or on the C. Give the children more than one chance. Explain that playing these notes one after the other is like climbing the stairs. Say, "We always feel like resting when we reach the top. In music, we also call these notes from C to the next C the scale of C."

Continue by suggesting to the children, "Let's count these notes. There are eight. We have only five fingers, so, we have to play three notes with our first three fingers, then put the thumb under and play the next five notes." Do this a number of times. Help the children play it smoothly or legato.

The following two exercises are for passing the thumb first under the second finger, then under the third.



Many patterns like these can be found in the piano technique books, for example Alessandro Longo Book I A, Rossomandi Guida Book I, Cesi Book I, and others.



Lesson 21: The C below middle C

A. On the keyboard. Play middle C. Ask the children to find the first C below middle C.

B. On the staff. As the children begin to understand the idea that notes come on lines and spaces, then, it is easier to say, "this note is found in the second space of the bass clef," than to find a relative way. Help them play the lower C with their fifth finger.

Use some exercises including the three notes the children know in the bass clef. For example:

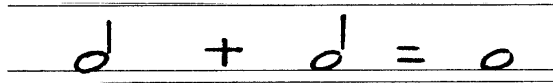


Add these notes to a simple melody in the treble clef, for example:



Lesson 22: The Eighth Note

As we have already seen two half notes make a whole.

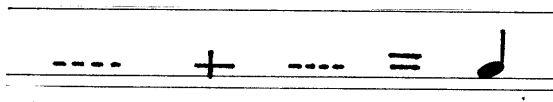


Now you tell me this:



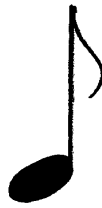
Encourage the children to answer.

Continue by asking about the quarter note. Show the following:

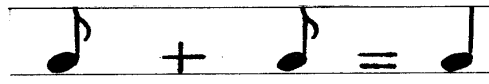


Ask, "What about the quarter note? What do you think we need to put in these blanks?" Allow time for the children to guess. Then explain, "This is a new note. We call it eighth note. It looks like a quarter note but has a little flag on its stem."

Show this chart.



Show the following chart and point to the equation.



This new note almost always holds its sister's hand so they look like this.

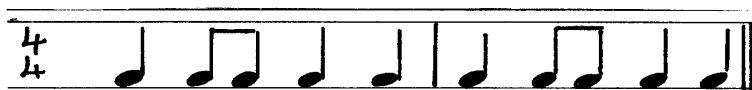


But can be written like this:

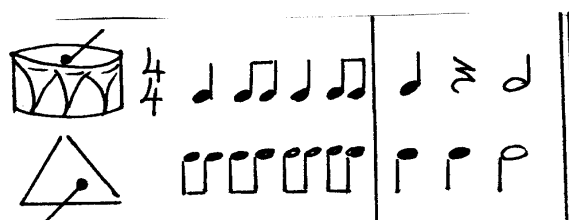
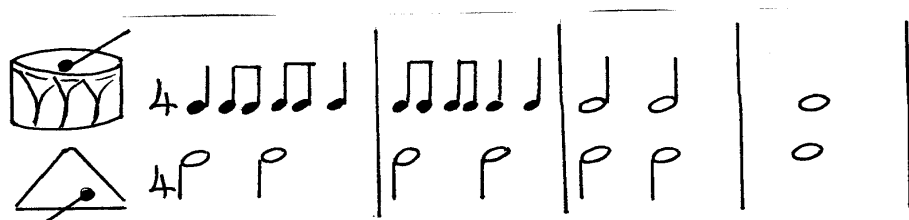


To count these notes equally we add an "and" to the quarter note count.

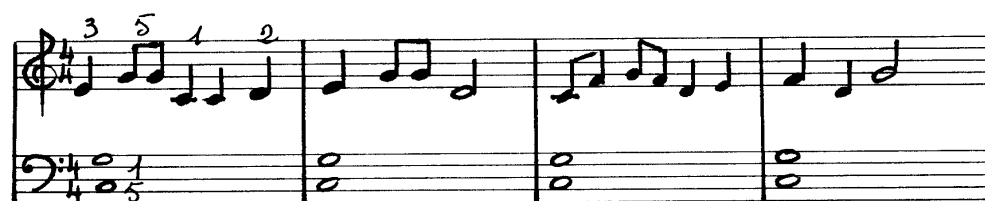
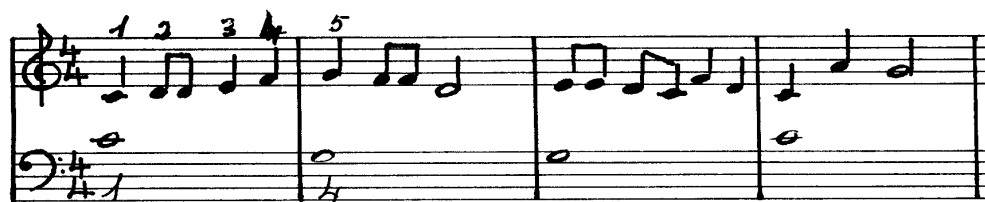
Explain a counting method but saying: "To count the notes equally we say add the word 'and' to the quarter note count." Tell the students, "Try these exercises on your drums. Count out loud." Model the counting for the students until they are able to count independently.



Divide the class into two groups. Give one group drums and the other triangles or sound blocks. Let the children play these exercises. Help each group to play its part alone. Then, following this practice help the children write their own exercises using eighth notes.



Give some simple piano exercises using eighth note patterns.



Handwritten musical score for a piece in 3/4 time, consisting of three systems of two staves each. The first system includes fingering numbers 5, 3, and 1 above the first measure of the treble staff. The notation includes eighth and quarter notes, rests, and dynamic markings like 'p'.

System 1:

- Treble Staff:** Measure 1: Quarter note (F4), eighth notes (G4, A4) with fingering 5, 3, 1 above. Measure 2: Quarter note (B4), eighth notes (A4, G4). Measure 3: Quarter note (F4), eighth note (E4), eighth rest. Measure 4: Quarter note (D4), eighth notes (C4, B3).
- Bass Staff:** Measure 1: Quarter note (F3) with '5' below. Measure 2: Quarter note (F3) with '1' below. Measure 3: Quarter note (F3), eighth rest. Measure 4: Quarter note (F3).

System 2:

- Treble Staff:** Measure 1: Quarter note (B4), eighth notes (A4, G4). Measure 2: Quarter note (F4), eighth rest. Measure 3: Quarter note (E4), eighth notes (D4, C4). Measure 4: Quarter note (B4), eighth notes (A4, G4).
- Bass Staff:** Measure 1: Quarter note (F3) with 'p' above. Measure 2: Quarter note (F3), eighth rest. Measure 3: Quarter note (F3) with 'p' above. Measure 4: Quarter note (F3).

System 3:

- Treble Staff:** Measure 1: Quarter note (F4), eighth rest. Measure 2: Quarter note (E4), eighth notes (D4, C4). Measure 3: Quarter note (B4), eighth notes (A4, G4). Measure 4: Quarter note (F4).
- Bass Staff:** Measure 1: Quarter note (F3), eighth rest. Measure 2: Quarter note (F3) with 'p' above. Measure 3: Quarter note (F3), eighth rest. Measure 4: Quarter note (F3) with 'p' above.



CHAPTER IV

SUMMARY AND RECOMMENDATIONS

Children with hearing impairments have proved that they do hear music and can benefit from musical experiences. They can listen, sing, move, dance and play musical instruments. All that is needed is a good, loving teacher who is aware of the unique aspects of their disability and who is ready to help them overcome it.

A review of the literature provided definitions, explanations of the hearing processes, possible causes of hearing loss, measurement and classifications of hearing loss, and characteristics of children with a hearing impairment. Also important for consideration were the difficulties that may accompany the learning process for children with hearing impairments. The importance of listening, singing, moving, dancing and playing an instrument were stressed as well as an explanation of how children with hearing impairments can learn concepts and skills for piano playing.

Recommendations and Personal Reflections

After the wonderful chance the author had in Wichita, Kansas, USA (studying music for special education with Professor Betty Welsbacher; assisting Dr. Elaine Bernstorf with piano lessons for a hearing-impaired, wonderful child called Miranda; and attending music classes for hearing-impaired children with Mrs. Lela Jo Monger at Caldwell school) she admits that she has learned a lot about music education to children with special needs, in general, and to children with hearing impairments, in

particular. She also has learned much about teaching piano to children with hearing impairments. Thanks to her wonderful professors who took every chance to tutor her.

After finishing her research the author would like to put forward some recommendations as follows:

1. Teaching music to children with special needs is not only important but a necessity.
2. Teaching music to children with hearing impairments must not be of any doubt any more.
3. Children with hearing impairments can do much more than we can imagine. Give them every opportunity.
4. Do not quickly judge the abilities of your hearing impaired child. Give him/her the chance to tell you and show you what he can and cannot do.
5. Any communication method that the children understand is a good method.
6. Music curriculum to hearing impaired children should not differ from that of the normal hearing children. It is the way of teaching that sometimes needs to be modified.
7. Be willing to try teaching concepts and activities that music teachers of the deaf may say cannot be accomplished. Try every musical goal that hearing children try.
8. Music lessons should be at least twice a week for about thirty minutes.

9. Teaching music to children with special needs should be included to the curriculums of the faculties of music education in Egypt.

10. The Ministry of Education in Egypt need to study the idea of mainstreaming.

ABSTRACT

This research presented in this document is divided into four chapters as follows:

Chapter One: Includes the introduction and statement of problem. As hearing impaired children do hear most of the sounds of music, enjoy it, and comprehend it; they should be given the same music education normally hearing children receive.

Chapter Two: Includes some theoretical aspects of the research as: definition of deafness, how do we hear, causes of deafness, how hearing is measured, characteristics of hearing impaired children, and some difficulties that may accompany their educational life. It also includes the importance of listening, singing, movement and dance, and instrumental learning to the hearing impaired children.

Chapter Three: Include in this chapter is a curriculum for teaching piano playing to deaf children and children with hearing impairments.

Chapter Four: Summary and recommendations are presented.

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